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RUEHIL/AMEMBASSY ISLAMABAD 0284  
RUEHKA/AMEMBASSY DHAKA 0220  
RUEHKT/AMEMBASSY KATHMANDU 0217  
RUEHLM/AMEMBASSY COLOMBO 0220  
RUEHNE/AMEMBASSY NEW DELHI 0271  
RUEHNT/AMEMBASSY TASHKENT

UNCLAS SECTION 01 OF 02 TASHKENT 001383

SENSITIVE

SIPDIS  
DEPARTMENT FOR SCA/CEN  
DEPARTMENT FOR OES (PATRICK HUDAK AND NINA FITE)  
EMBASSY ASTANA FOR BRUCE HUDSPETH

E.O. 12958: N/A

TAGS: [ECON](#) [PREL](#) [TSPL](#) [ETTC](#) [KTIA](#) [KIPR](#) [KSTC](#) [UZ](#)  
SUBJECT: UZBEK S&T: PHYSICS, ENERGY, AND HIGHER EDUCATION

REF: TASHKENT 1151

**¶1.** (SBU) SUMMARY. OES/STC Officer Michael C. Schena (ESToff) visited Uzbekistan from June 1 through July 6 to discuss Uzbek Science and Technology (S&T) infrastructure and to continue negotiations on a U.S.-Uzbek S&T Cooperation Agreement (reftel). This cable -- one of a series on the state of Uzbek S&T -- focuses on physics and energy research and cooperative programs undertaken by the Tashkent State Technical University.  
END SUMMARY.

SCIENTIFIC ASSOCIATION "PHYSICS-SUN" AND SOLAR FURNACE (IMS)

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**¶2.** (SBU) IMS's research is focused in the following areas: processes of interaction of concentrated sunlight with substances; experimental solar energy installations; and technologies for synthesis of ceramic fire-resistant materials.

**¶3.** (SBU) ESToff's tour of the Physics-Sun (PS) facility began at the organization's headquarters in Tashkent. ESToff met with General Director Prof. Sagdulla Lutpullaev and laboratory head Dr. Sultan Suleimanov. Suleimanov explained that this lab's focus was the application of solar technologies, nuclear physics, semiconductors and research on Stirling engines. The lab has current contacts with the National Renewable Energy Laboratory (NREL) and Oak Ridge and has worked in the past with NATO and UNDP. The lab also houses part of the central hub for the Virtual Silk Road (VSR) Central Asian Research network that connects all Uzbek labs, universities and institutes. VSR currently holds partnerships with Microsoft and Cisco. Several researchers expressed a strong desire for better access to international journals to improve their research.

**¶4.** (SBU) COMMENT: In one of the PS labs, researchers were working on a Stirling Engine water pump to be powered by solar energy. This project shows great promise and is an example of a project that should be considered for support under the aegis of the S&T framework agreement. END COMMENT.

**¶5.** (SBU) Suleimanov accompanied ESToff to the solar furnace in Parkent, a short distance outside Tashkent in Tashkent Province. Suleimanov introduced ESToff to facility director Abdujabbor Abdurakhmanov. The furnace, an impressive structure in itself over ten stories high, sits atop a

mountain. This solar furnace is the largest in the world, the second largest being in France. The furnace has the ability to convert solar energy into temperatures well over 3,000 degrees C. The original purpose of the furnace was to simulate temperatures produced during nuclear explosions, but it is now used to make industrial ceramics for the cotton, oil and gas, and textile industries and to conduct thermodynamic research. The facility is currently supported through a series of state grants and subsidies from private sector entities.

¶6. (SBU) COMMENT: The solar furnace was completed in 1987 just before the collapse of the USSR. The facility is in top condition and is well maintained. This facility would be a strong partner for USG entities and could play a pivotal role in future solar cell research. END COMMENT.

INSTITUTE OF NUCLEAR PHYSICS (INP)

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¶7. (SBU) INP's research is focused in the following areas: nuclear physics, solid waste radiation physics and material sciences, activation analysis and radiochemistry, scientific instruments, information technologies.

¶8. (SBU) ESTOff met with Umar Salikhbaev, Director of INP, who described the institute's work in nuclear and particle physics. There is a research reactor on site as well as a synchrotron and gamma ray research station. The facility cooperates extensively with DOE and DOE labs; in fact, the facility has a

TASHKENT 00001383 002 OF 002

2002 MOU signed with DOE that currently has 15 active partnerships for cooperative research. Salikhbaev expressed interest in greater international collaboration and a desire to work more closely with the U.S. and international projects including CERN and SESAME.

¶9. (SBU) Salikhbaev conducted ESTOff on a tour of the facility and showed him a number of labs, the gamma ray research station, and the research reactor. During the tour, Salikhbaev talked extensively about collaboration with DOE on upgrading security and monitoring facilities at the institute.

¶10. (SBU) In regards to security, the facility is double walled with a perimeter gate and guard posts. Armed guards are seen walking the property and manning posts. The facility is also camera monitored. In addition, sensors detecting radioactive materials are located near the gates and entrance to each building.

TASHKENT STATE TECHNICAL UNIVERSITY (TSTU)

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¶11. (SBU) TSTU is one of the largest universities in Uzbekistan and the largest technical university in Central Asia. The University offers BA, MA, and PhD degree programs in over 80 areas. Main focus areas include energy, oil & gas, ITC, electronics, management, and aviation. The university offers vocational training for students and feeds skilled professionals directly into the Uzbek economy.

¶12. (SBU) ESTOff met with Sharakhmat Shaabidov, Rector of the TSTU, to discuss potential collaboration with U.S. universities and institutions. Shaabidov said he was open to further collaboration with the U.S. Although there are currently no formal ties, there were ties in the past. Shaabidov said a number of TSTU professors serve as guest lecturers at U.S. universities, and he continued that the university currently has a number of international collaborations with universities in CIS countries, Europe, and Asia. In discussing research at the university, Shaabidov said research facilities have improved and now rival facilities directly under the Academy of Sciences. Shaabidov also mentioned that many TSTU students attend the university under a full or partial scholarship from a local company or

organization for which they work after graduating. This includes the GM engine plant currently being built outside Tashkent. Shaabidov was very interested in establishing stronger contacts with universities in the U.S.

CONCLUSION

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¶13. (SBU) IMS, INP, and TTSU were able to continue their collaboration even through the decertification period. These scientists are strongly interested in expanded collaboration. The presence of new equipment at these facilities clearly demonstrates that the GOU understands the importance of research and has continued to provide strong support.

BUTCHER